

**Commonwealth of Massachusetts**  
Executive Office of Health and Human Services



# **Health Information Technology Council January Meeting**

**January 14, 2013**

**3:30-5:00 P.M.**

**One Ashburton Place, Boston  
Matta Conference Room, 11<sup>th</sup> Floor**



# Agenda



## Today's Agenda:

### **1. HIT Council**

- i. Changes per new MA healthcare reform law – Ann Hwang

### **2. Mass HIway Update**

- i. HIE overview, Golden Spike event, December release – Manu Tandon
- ii. Last Mile program – Laurance Stuntz

### **3. Phase 2 Update**

- i. Phase 2 APD submission to CMS – Manu Tandon

### **4. MeHI Update**

- i. Plans for EHR Adoption – Laurance Stuntz

### **5. HIT Council Annual Report**

- i. Outline of HIT Council Annual Report to the Legislature – Manu Tandon

### **6. Wrap up and next steps – Manu Tandon**

## Appendix materials:

- CMS/ONC Phase 2 IAPD-U Discussion – document for October 23, 2012 meeting with CMS and ONC



## **Discussion Item 1:**

**HIT Council – Changes per new MA healthcare reform law**



# HIT Council membership



## Welcome!! HIT Council structure per Chapter 118I (M.G.L. 118I, 2(b))

Seat	Member
Chair: Secretary of Health and Human Services (or designee)	JudyAnn Bigby/Manu Tandon
Secretary of Administration and Finance (or designee)	John Letchford
Executive Director of the Health Policy Commission (or designee)	David Seltz
Executive Director of the Center for Health Information Analysis	Aron Boros
Director of the Massachusetts e-Health Institute	Laurance Stuntz
Secretary of Housing and Economic Development (or designee)	Eric Nakajima
Director of the Office of Medicaid (or designee)	Julian Harris
Expert in health information technology	Meg Aranow
Expert in law and health policy	Abigail Moncrieff
Expert in health information privacy and security	Deb Adair

Seat	Member
From an academic medical center	John Halamka
From a community hospital	Norm Deschene
From a community health center	-
From a long term care facility	Bob Driscoll
From large physician group practice	Michael Lee
From a small physician group practice	-
Registered nurse	Margie Sipe
A behavioral health, substance abuse disorder or mental health services organization	-
Represent health insurance carriers	Steve Fox
2 members shall have experience or expertise in health information technology	Larry Garber
	Karen Bell



# HIT Council structure



## **HIT Council structure per Chapter 118I (M.G.L. 118I, 2(a-b))**

- HIT Council housed within Executive Office of Health and Human Services (EOHHS)
- HIT Council consists of 21 members
  - 7 members designated by position
  - 14 members appointed by Governor
- Term for appointed members is 2 years or until a successor is appointed. Members are eligible to be reappointed.
- There is no compensation for service.
- Regarding conflicts of interest:
  - “Chapter 268A shall apply to all council members, except that the council may purchase from, sell to, borrow from, contract with or otherwise deal with any organization in which any council member is in anyway interested or involved; provided, however, that such interest or involvement shall be disclosed in advance to the council and recorded in the minutes of the proceedings of the council; and provided, further, that no member shall be considered to have violated section 4 of said chapter 268A because of the member’s receipt of usual and regular compensation from such member’s employer during the time in which the member participates in the activities of the council.”



# HIT Council charge



## HIT Council charge per Chapter 118I:

- “Coordinate with state agencies, including the commission, other governmental entities and private stakeholders to develop a statewide HIE.” (M.G.L. 118I, 2(a))
- “Advise EOHHS on design, implementation, operation and use of statewide HIE and related infrastructure.” (M.G.L. 118I, 2(a))
- “Advise EOHHS on HIE strategic and operating plan.” (M.G.L. 118I, 3(b)(i))
- “Consult with various organizations of regional payers and providers in developing the HIE plan and annual updates and in designing, developing, disseminating and implementing the HIE.” (M.G.L. 118I, 4)
- “Approve all expenditures from the *Massachusetts Health Information Exchange Fund*.” (M.G.L. 118I, 5(a))
- The council shall file an annual report, not later than January 30, with the joint committee on health care financing, the joint committee on economic development and emerging technologies, the house and senate committees on ways and means and the clerks of the house and senate concerning the activities of the council in general and, in particular, describing the progress to date in developing a statewide health information exchange and recommending such further legislative action as it deems appropriate. (M.G.L. 118I 15)
- Conduct an evaluation of the effectiveness of its expenditures” and “shall submit a report thereon” (M.G.L. 224, 240. (a))



# EOHHS responsibilities for HIE



## **EOHHS responsibilities per Chapter 118I (M.G.L. 118I, 3) The executive office:**

- “shall conduct procurements and enter into contracts for the purchase and development of all hardware and software in connection with the creation and implementation of the statewide health information exchange.”
- “may , in consultation with the council and the commission, oversee the technical aspects of the development, dissemination and implementation of the statewide health information exchange including any modules, applications, interfaces or other technology infrastructure necessary to connect provider electronic health records systems to the statewide health information exchange.”
- “shall, in consultation with the council, develop a health information exchange strategic and operating plan”
- “shall implement, operate and maintain the statewide health information exchange”
- “shall develop and implement statewide health information exchange infrastructure, including, without limitation, provider directories, certificate storage, transmission gateways, auditing systems and any components necessary to connect the statewide health information exchange to provider electronic health records systems”
- “shall take all actions necessary to directly manage the Office of the National Coordinator-HIE Cooperative Agreement and ONC Challenge Grant programs, including the termination of the current State Designated Entity delegation and the transfer of management responsibility of said ONC-HIE Cooperative Agreement from the Massachusetts e-Health Institute to the executive office.”



# HIT Council & MeHI Co-ordination



## **MeHI responsibilities per revised Chapter 40J:**

- “The institute, in consultation with the HIT Council shall advance the dissemination of health information technology and support the state’s efforts in meeting the health care cost growth benchmark established under section 9 of chapter 6D by:
  1. “facilitating the implementation and use of interoperable electronic health records systems by health care providers in order to improve health care delivery and coordination, reduce unwarranted treatment variation, eliminate wasteful paper-based processes, help facilitate chronic disease management initiatives and establish transparency;
  2. “supporting the council in the creation and maintenance of a statewide interoperable electronic health information exchange that allows individual health care providers in all health care settings to exchange patient health information with other providers;
  3. identifying and promoting an accelerated dissemination in the commonwealth of emerging health care technologies that have been developed and employed and that are expected to improve health care quality and lower health care costs, but that have not been widely implemented in the commonwealth, including, but not limited to, evidence-based clinical decision support and image exchange tools for advanced diagnostic imaging services;
  4. facilitating health care providers in achieving and maintaining compliance with the standards for meaningful use, beyond stage 1, established by regulation by the United States Department of Health and Human Services under the Health Information Technology for Economic and Clinical Health Act and referred to in this section as “meaningful use”; and
  5. promoting to patients, providers and the general public, a broad understanding of the benefits of interoperable electronic health records systems for care delivery, care coordination, improved quality and ultimately greater cost efficiency in the health care delivery system.





# HIT Council meeting schedule



## HIT Council 2013 meeting schedule:

- January 14
- February 4
- March 13
- April 8
- May 6
- June 3
- July 1
- August 5
- September 9
- October 7
- November 11
- December 9

All meetings to be held from 3:30-5:00 pm at One Ashburton Place (Conference Room TBD), Boston



## **Discussion Item 2:**

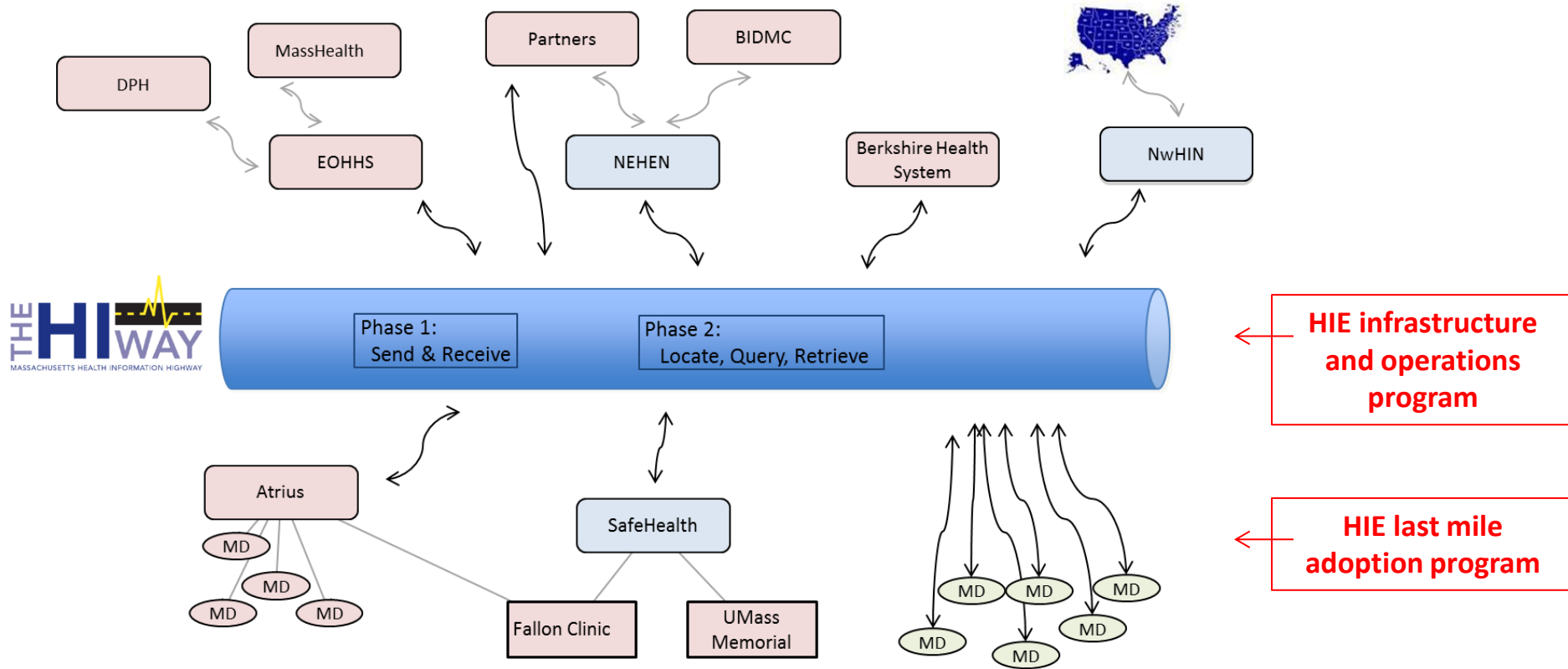
**Mass Hlway Update – HIE Overview, Golden Spike Event, December Release, Last Mile Program**



# A statewide HIE service that is flexible to wide variety of current and future market needs



## Illustrative example





# Golden Spike Event



**On October 16, 2012 nine organizations sent production transactions over the Massachusetts Hlway!**





# Mass Hlway – Transactions sent Oct 16



## Transactions sent over Mass Hlway during Golden Spike demonstration

Use Case	From	To	Content
Eastern Hospital to Western Hospital	Massachusetts General Hospital	Baystate Medical Center	Governor Patrick medical record (CCD)
ACO to ACO	Beth Israel Deaconess Medical Center	Massachusetts General Hospital	Patient summary record (CCD)
Hospital to Practice	Childrens' Hospital	Atrius Health	Patient summary record (CCD)
Suburban Hospital to Academic Medical Center (bi-directional)	MetroWest (Vanguard)	Tufts Medical Center	Patient summary record (CCD)
ACO to Quality Data Warehouse	Beth Israel Deaconess Physician Organization	Massachusetts eHealth Collaborative	Encounter summary (CCD)
Hospital to Referring PCP	Beth Israel Deaconess Medical Center	Dr. Ayobami Ojutalayo (Lawrence)	Patient summary record (CCD)
ACO to Health Plan	Beth Israel Deaconess Medical Center	Network Health Plan	Patient summary record (CCD)

Participating vendors: Orion Health, Meditech, Cerner, eClinicalWorks, LMR (Partners), webOMR (BID), Epic, Siemens



# Mass Hlway December release



## Mass Hlway December release update:

- Public facing components supporting the secure statewide exchange of patient health information was promoted to the Mass Hlway production environment Dec 28, 2012!

## Functional components included in this release:

- **Hosted Webmail (Early Adopter release v.1.0):** Webmail user can send and receive secure email with payload attachments, view and save attachments, and access provider directory.
- **LAND Device (General Availability (GA) Release v.1.0):** Supports interfaces for Golden Spike beta release plus local support of XDR, FTP, and HTTP (REST) and communication to the HIE via S/MIME XDR or the HIE proxy mode.
- **Clinical Gateway:** Supports two-way secure communication between EOHHS applications and Hlway participant systems for Syndromic Surveillance, CBHI, and Immunization reporting. Hlway address is @[direct.clinicalgateway.masshiway.net](mailto:direct.clinicalgateway.masshiway.net).
- **Security:** Web based managed services in place to issue digital certificates to support secure messaging, Symantec certificates installed in production infrastructure and all LAND devices deployed during Golden Spike release and webmail.



# Phase 1 project schedule



## Mass Hlway Phase 1 high level project schedule

Initiative	Completion date
Submit IAPD and SMHP to CMS	Complete – Nov 2011
Submit updated SOP to ONC	Complete – Feb 2012
EHR/HIE Vendor Roundtable	Complete – Dec 2011
Network Users Roundtable – Eastern MA	Complete – Q1 2012
Network Users Roundtable – Western MA	Complete – Q1 2012
CMS approval of APD-U/SMHP	Complete – Feb 2012
ONC approval of SOP and SOP budget	Complete – Mar 2012
RFR for Phase 1 services released to Infrastructure Vendors	Complete – Feb 2012
Infrastructure Vendor selected	Complete – Apr 2012
Infrastructure Vendor under contract	Complete – Jun 2012
Go-live for Phase 1 “Information Highway” (Direct Gateway)	Complete – Oct 2012
Go-live for Last Mile program	Complete – Oct 2012
Go-live for Phase 1 Public Health Gateway R1 (Clinical Gateway, Security, LAND – GA release, WebMail)	Complete – Dec 2012
Go-live for Phase 1 Public Health Gateway R2 (CBHI, SS)	Q1 2013
Go-live for Impact program	Q2 2013



# Mass Hlway Last Mile Program

HIT Council Update  
January 14, 2012



**MeHI**  
MASSACHUSETTS  
eHEALTH INSTITUTE

  
at the MassTech  
Collaborative

**THE HIWAY**  
MASSACHUSETTS HEALTH INFORMATION HIGHWAY



- To rapidly grow adoption of the Mass HIway by all eligible participants, while catalyzing innovation ultimately demonstrating measurable improvements in care quality, population health and health care costs

- **GOAL 1: *Connect and Integrate***
  - Connect participants to and enable integration with the Mass Hlway by all eligible participants
- **GOAL 2: *Maximize Adoption***
  - Optimize Mass Hlway services and grow utilization
- **GOAL 3: *Impact Healthcare***
  - Demonstrate measurable improvements in care quality (better care), population health (healthy people and communities) and health care costs (affordable care)

# Our Environment

BARRIERS	INCENTIVES
<ul style="list-style-type: none"><li>• EHR technology interfaces and product timelines</li><li>• Consumer on-ramps &amp; workflows</li><li>• Consent infrastructure</li><li>• Evolving Hlway infrastructure</li><li>• Evolving policies (consent, HISP-HISP)</li><li>• Hlway awareness</li></ul>	<ul style="list-style-type: none"><li>• Meaningful Use</li><li>• Hlway Implementation Grants</li></ul>
ENABLERS	PENALTIES
<ul style="list-style-type: none"><li>• Chapter 224 – force of law to require connectivity (patients, providers, etc)</li><li>• Pioneer ACOs (5)</li><li>• Community-based Care Transition Programs (4)</li><li>• Patient-centered Medical Homes</li><li>• Mergers/Acquisitions</li><li>• Innovation/outcome funding</li></ul>	<ul style="list-style-type: none"><li>• CMS Readmission penalty (current)</li><li>• BORIM – provider licensure tied to demonstrating meaningfully using connected EHRs (1/1/2015)</li><li>• Chapter 224 – Penalties for provider non-participation in HIE (1/1/2017)</li></ul>

# Last Mile Approach & Projects

Connection

Adoption

Impact  
Healthcare

## Last Mile Projects

EHR Vendor Interface  
Grants

Implementation & Support Program

Community of Practice -  
*Consent*

Community  
Collaboration Program

Hiway Implementation  
Grants

Outreach

Marketing

Education

# Last Mile Activity Highlights

- Implementation & Support Vendor contract in final review
- EHR Vendor Interface Grants
  - Tier 1 released in November, due January 11
    - 5 will apply, 5 may apply, 3 will not apply
  - Tier 2 to be released in early February
- Community Collaboration and Hlway Implementation Program in design and socialization
  - Merrimack Valley HIE Collaborative underway as prototype
  - Review with HIT Council at February 4<sup>th</sup> meeting
- Outreach, Marketing and Education
  - Hlway Implementation Guide drafted
  - Use case guidance developed
  - Mass Hlway Connector (newsletter) prepared
  - Hlway FAQs drafted
  - 10 organizations implemented, 60 in the pipeline...

# Last Mile Pipeline



Tier 1		1	2	1		8	
Tier 2	7	7	3			2	
Tier 3	6	3	3				
Tier 4	1	1					
Tier 5	5		1		1		
EHR Vendor	2	13	1				
Other	1		1				
<b>TOTALS</b>	21	25	10	1	1	10	70

Leads in our pipeline by tier and stage that intend to either join or mature their use of the HIway



### **Discussion Item 3:**

**Phase 2 Update – Phase 2 APD submission to CMS**



# Mass Hlway Phase 2 Planning



## **Mass Hlway phase 2 & 3 planning has begun:**

- Phase 2/3 planning and funding request kicked off with October 23 presentation to CMS in Baltimore (presentation attached in appendix)
- APD submitted to CMS on December 21, 2012
- Plan is to consolidate Phase 2 and 3 of the strategy proposed in fall 2011
  - Allows us to build on momentum from successful Phase 1 launch
  - Establishing funding foundation now will allow more robust planning for next phases
  - Aligns statewide HIE program with needs of Chapter 224
- New plan presented to CMS breaks Phase 2 into two releases:
  - Release 1: Expanded public health interfaces
  - Release 2: Statewide EMPI, RLS, and Consent Database (also includes Medicaid CDR, but this is not part of the HIE)





# Original phasing plan



HIE phasing from strategy approved by HIT Council on November 14, 2011

## Phase 1

### Information Highway

- Create infrastructure to enable secure transmission (“directed exchange”) of clinical information
- Will support exchange among clinicians, public health, and stand-alone registries
- Focus on breadth over depth

Facilitate  
normalization and  
aggregation

## Phase 2

### Analytics and Population Health

- Create infrastructure to facilitate data aggregation/analysis
- Will support Medicaid CDR and quality measure infrastructure
- Will support vocabulary translation services (lab, RX)

Enable queries for  
records

## Phase 3

### Search and Retrieve

- Create infrastructure for cross-institutional queries for and retrieval of patient records

Increasing cost and complexity



# Consolidated phasing plan



## Consolidated HIE phasing proposed to CMS and ONC on October 23, 2012

	Phase 1	Phase 2
<b>HIE components</b>	<ul style="list-style-type: none"><li>• Provider directory</li><li>• PKI infrastructure</li><li>• Direct/HL7 gateway</li><li>• Web portal mailbox</li></ul>	<ul style="list-style-type: none"><li>• Master Person Index</li><li>• Record locator service</li><li>• Consent database</li><li>• Patient-directed messaging</li><li>• Query/retrieve infrastructure</li></ul>
<b>HIE end-points</b>	<ul style="list-style-type: none"><li>• Any TPO participant</li><li>• Public health<ul style="list-style-type: none"><li>• SS, CBHI, MIIS</li></ul></li></ul>	<ul style="list-style-type: none"><li>• MassHealth clinical data repository</li><li>• Medicaid/HIX participants</li><li>• Public health<ul style="list-style-type: none"><li>• ELR, PMP, Opioid, Lead</li></ul></li></ul>

A richer set of services available to a broader set of participants



# Phase 2 supports high-value use cases



## MassHIway service

## Use case examples

Medical record location

- An emergency room provider uses MassHIway to determine the organization(s) that holds a patient's medical records
- A case manager uses HIway to identify the care team that may be serving a patient

Medical record retrieval

- An emergency room provider uses MassHIway to retrieve a summary record for a patient
- A provider uses HIway to retrieve prior diagnostic test results and specialist visit records to aid in patient diagnosis

Public health reporting

- A provider uses MassHIway to report to the public health cancer registry, immunization registry, lab reporting program, opioid treatment program, syndromic surveillance program, or childhood lead poisoning prevention program

Patient-directed Messaging

- A hospital provider uses MassHIway to send discharge instructions to a patient-specified PHR/portal
- A patient uses MassHIway to send "clipboard" information to a specialist prior to an initial visit

Consent management

- A provider uses MassHIway to record a patient's consent preferences for information sharing via the MassHIway
- A patient uses MassHIway to set his/her own consent preferences

### Value drivers:

- Continuity of care
- Patient safety & reduction in adverse events
- Reduction in controlled substance overuse
- Reduction in utilization of medical services
- Enhanced public health reporting adherence
- Supports MU achievement
- Administrative simplification



# Phase 2 overall timeline



## Mass HIway Phase 2 high level project schedule

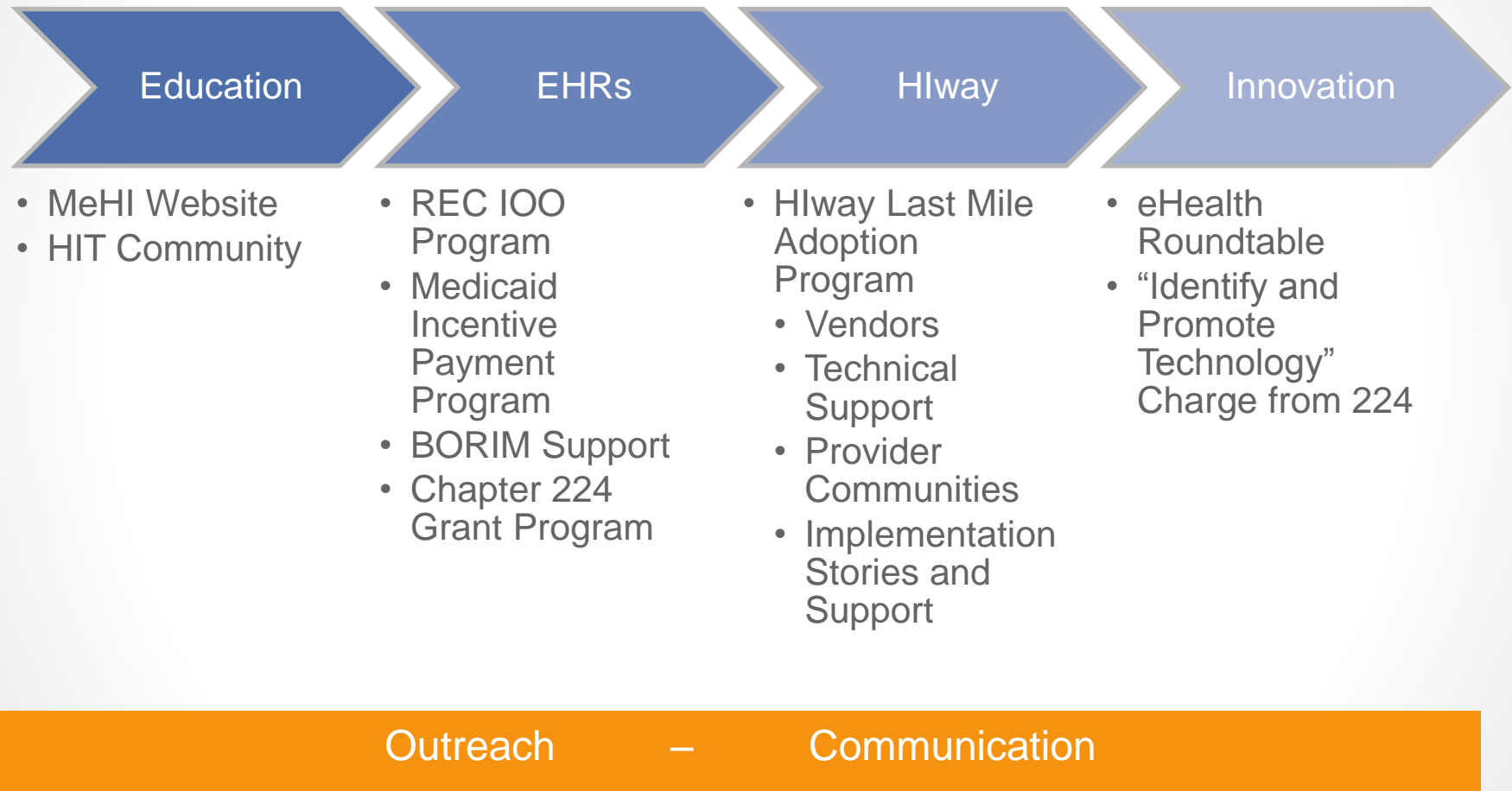
Activity	Completion date
Submit IAPD to CMS	<b>Complete</b>
CMS approval of Phase 2 IAPD	Jan/Feb 2013
Procurement for Phase 2 services (RFP, Change Orders, Internal Development)	Jan/Feb 2013
Phase 2 infrastructure vendor selected	March 29, 2013
Phase 2 contract (or change order) executed	Apr 15, 2013
Go-live for Phase 2, Release 1 (Public Health interfaces)	Apr-Oct, 2013
Go-live for Phase 2, Release 2 (CDR, EMPI, RLS, Consent)	Oct 2013 – Mar 2014



## **Discussion Item 4:**

### **MeHI Update – Plans for EHR Adoption**

# MeHI Approach and Programs





## **Discussion Item 5:**

### **HIT Council Annual Report – Outline**



# HIT Council Annual Report Outline



## **1. HIT Council Overview**

- a) Membership
- b) Advisory Groups

## **2. HIE Activities**

- a) Past Accomplishments
- b) Future Goals
- c) Functions
  - i. Technology Development
  - ii. Outreach and Promotion
  - iii. Operations and Maintenance
- d) Use Cases to Highlight Benefits of HIE
  - i. Quality improvement
  - ii. Cost Containment

## **3. Finances**

- a) Sources Of Funds
- b) Uses of Funds

## **4. Legislative Recommendations**





## Wrap up and Next Steps



# Wrap up



**Next HIT Council Meeting:** February 4, 2013

**Preliminary Agenda:**

1. Mass HIway Update
2. Phase 2 Functionality Review
3. HIT Council Advisory Group finalization and launch
4. Overview of the Ethics law requirements and Open meeting law
5. Wrap up and next steps

**Immediate next steps:**

- Complete annual report (due January 30, 2013)
- Reconvene Advisory Groups and continue phase 2 planning
- Complete procurement for HIE Subject Matter Expert (est. January 31, 2013)



## **Appendix: CMS/ONC Phase 2 IAPD-U Discussion – document for October 23, 2012 meeting with CMS and ONC**



# **CMS/ONC Phase 2 IAPD-U Discussion**

October 23, 2012



# Objectives for Today



- **Update on Phase 1 progress and budget**
- **Get course direction from CMS and ONC on our initial Phase 2 plans**
- **Get feedback and guidance on approach for IAPD-U finalization**
- **Discuss approval process and timelines**



# Agenda



- **Massachusetts Health Information Highway (HIway): Status**
- **Phase 2 Scope and Timelines**
- **Phase 2 Project Details**



# From October 24, 2011 Presentation



## Phase 1

### Information Highway

- Create infrastructure to enable secure transmission (“directed exchange”) of clinical information
- Will support exchange among clinicians, public health, and stand-alone registries
- Focus on breadth over depth

Facilitate  
normalization and  
aggregation

## Phase 2

### Analytics and Population Health

- Create infrastructure to facilitate data aggregation/analysis
- Will support Medicaid CDR and quality measure infrastructure
- Will support vocabulary translation services (lab, RX)

Enable queries for  
records

## Phase 3

### Search and Retrieve

- Create infrastructure for cross-institutional queries for and retrieval of patient records

Increasing cost and complexity



# Original Phase 1 Schedule



Source: *Commonwealth of Massachusetts Advance Planning Document Update*, November 11, 2011

HIE Phase 1 Timeline							
Projects	Sub Projects	Analysis	Design	Construction	System Testing	UAT	Implementation
HISP	Direct Gateway	3/1/2012	4/16/2012	5/21/2012	7/23/2012	8/27/2012	10/15/2012
Virtual Gateway Enhancements	AIMS 3.0 - HIX Development	2/1/2012	3/1/2012	4/1/2012	6/1/2012	7/5/2012	
	AIMS 3.0 - HIE changes & Expansion	5/21/2012	6/11/2012	6/25/2012	7/23/2012	8/15/2012	10/15/2012
	Public Key Infrastructure	3/1/2012	4/9/2012	5/14/2012	6/11/2012	7/16/2012	10/15/2012
	Provider Directory	3/1/2012	4/16/2012	5/21/2012	7/9/2012	8/6/2012	10/15/2012
	Clinical Gateway	5/7/2012	6/4/2012	7/9/2012	8/27/2012	9/24/2012	12/14/2012
HL7 Interface - Syndromic Surveillance		6/4/2012	7/23/2012	8/20/2012	10/15/2012	11/19/2012	12/14/2012
HL7 Interface – Children’s Behavioral Health Initiative(CBHI)		6/4/2012	7/23/2012	8/20/2012	10/15/2012	11/19/2012	12/14/2012





# Project schedule and updates



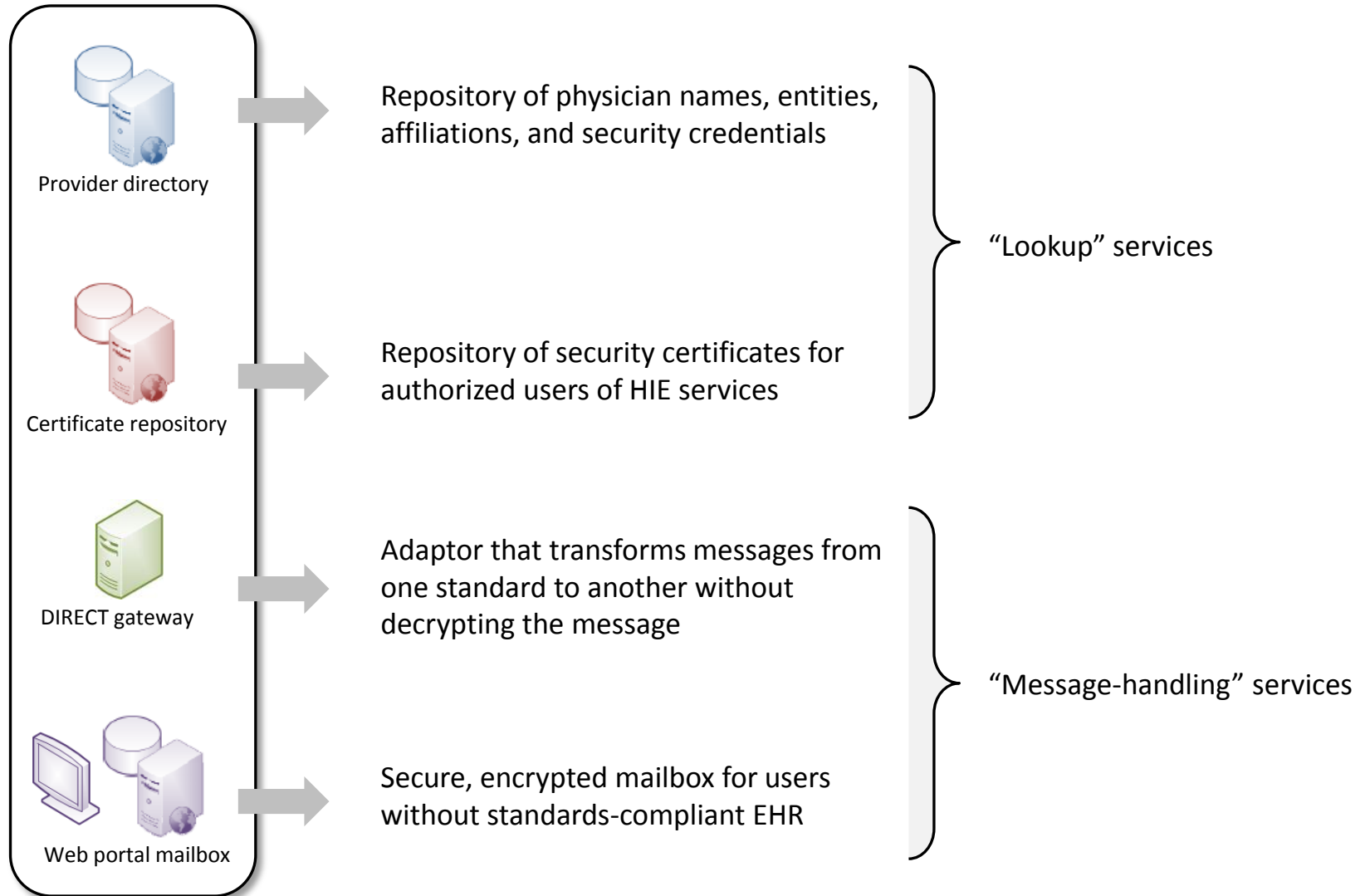
Initiative	Completion date
Submit IAPD and SMHP to CMS	Complete
Submit updated SOP to ONC	Complete
EHR/HIE Vendor Roundtable	Complete
Network Users Roundtable – Eastern MA	Complete
Network Users Roundtable – Western MA	Complete
CMS approval of APD-U/SMHP (all signs indicate)	Complete
ONC approval of SOP and SOP budget (expected)	Complete
RFR for Phase 1 services released to Infrastructure Vendors	Complete
Infrastructure Vendor selected	Complete
Infrastructure Vendor under contract	Complete
Go-live for phase 1 “Information Highway” (Direct Gateway)	Complete
Go-live for Last Mile program	Complete
Go-live for Impact program	Dec 17, 2012
Go-live for phase 1 Public Health Gateway (CBHI, SS)	Dec 17, 2012



# Basic Commonwealth HIE Services Description



## HIE Services





# 3 ways to connect to Mass Hlway



## User types



Physician practice



Hospital



Long-term care  
Other providers  
Public health  
Health plans



Labs and imaging  
centers

## 3 methods of accessing HIE services



EHR connects directly



EHR connects through LAN



Browser access to webmail inbox

## HIE Services



Provider directory



Certificate repository



DIRECT gateway



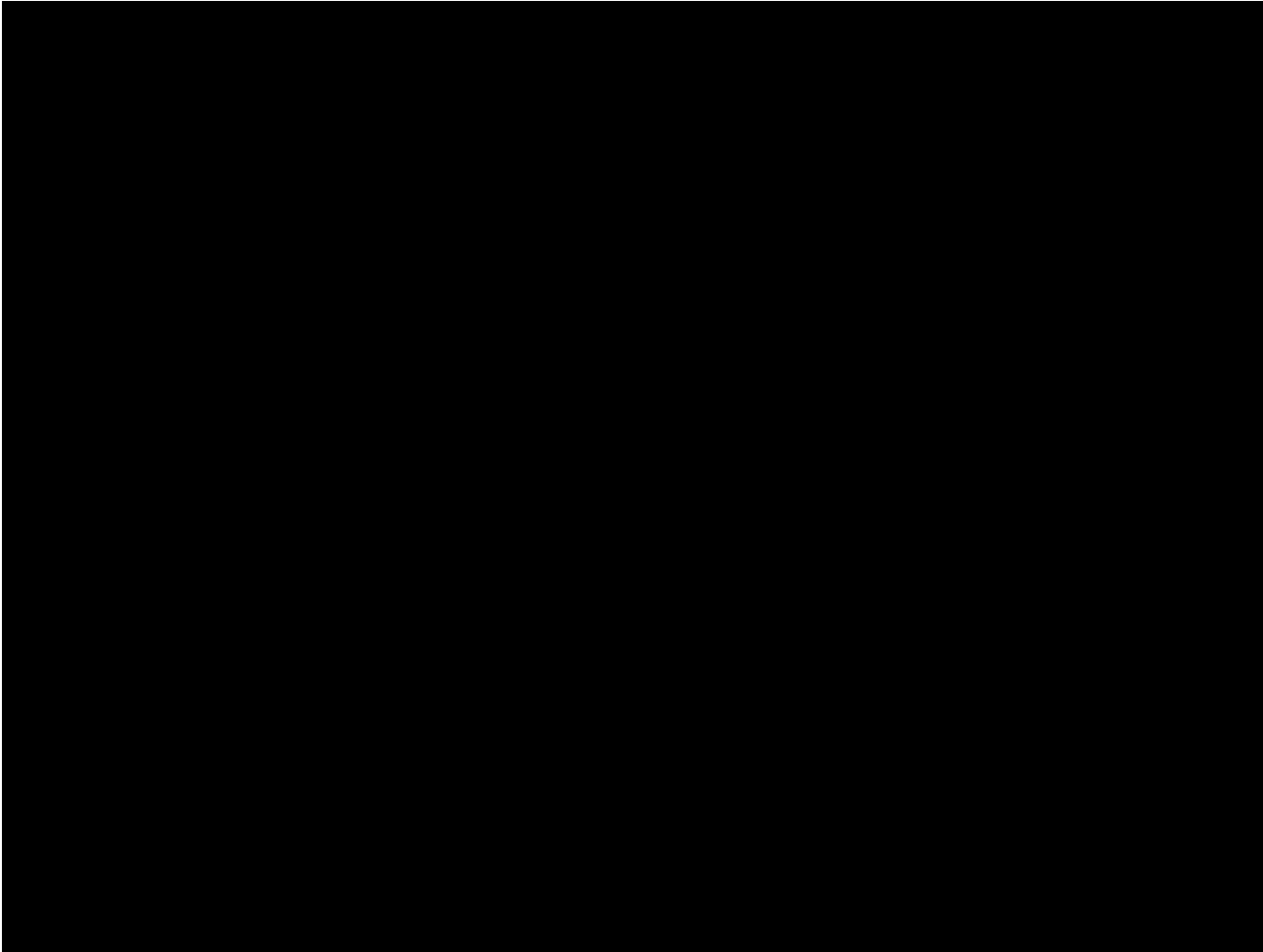
Web portal mailbox



# October 16, 2012: Golden Spike Day!



*double-click to run video*

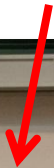




# Phase 1 Launch Details



John Halamka being shy



**9 organizations conducted production transactions on the HIway including:**

- Eastern Hospital to Western Hospital
- ACO to ACO
- Hospital to Practice (pediatric care coordination)
- Suburban Hospital to Academic Medical Center
- ACO to Quality Data Warehouse
- Hospital to Referring PCP
- ACO to Health Plan



# Golden Spike Transactions



## Mass HIway production exchanges transacted on October 16, 2012

Use Case	From	To	Content
Eastern Hospital to Western Hospital	Massachusetts General Hospital	Baystate Medical Center	Governor Patrick medical record (CCD)
ACO to ACO	Beth Israel Deaconess Medical Center	Massachusetts General Hospital	Patient summary record (CCD)
Hospital to Practice	Childrens' Hospital	Atrius Health	Patient summary record (CCD)
Suburban Hospital to Academic Medical Center (bi-directional)	Metro West (Vanguard)	Tufts Medical Center	Patient summary record (CCD)
ACO to Quality Data Warehouse	Beth Israel Deaconess Physician Organization	Massachusetts eHealth Collaborative	Encounter summary (CCD)
Hospital to Referring PCP	Beth Israel Deaconess Medical Center	Dr. Ayobami Ojitalayo (Lawrence)	Patient summary record (CCD)
ACO to Health Plan	Beth Israel Deaconess Medical Center	Network Health Plan	Patient summary record (CCD)

Participating vendors: Orion Health, Meditech, Cerner, eClinicalWorks, LMR (Partners), webOMR (BID), Epic, Siemens



# Phase 1 infrastructure



- **Release 1 (October 16, 2012)**
  - Direct Gateway with 4 integration options: SMTP/SMIME, XDR/SOAP, LAND appliance
  - Provider directory v1
  - AIMS/Public key infrastructure v1
- **Release 2 (December 17, 2012)**
  - Participant enrollment portal (November, 2012)
  - Webmail (November, 2012)
  - HL7 Gateway (syndromic surveillance, ELR, CBHI)
  - IMPACT (SEE, web-based CDA-editor for long-term care facilities)
  - Provider directory v2
  - AIMS/Public key infrastructure v2
- **Vendor-hosted cloud supports both HIE and HIX/IES**
  - Orion Health prime contractor
  - Unlimited license for Oracle Software for all 3 Phases of HIE and HIX/IES
  - Enterprise license for Orion Rhapsody Integration Engine
  - Leveraging existing IBM Initiate licenses



# Hlway Private Fee Principles



- **All participants pay some fee for ongoing HIE services**
  - Minimizes market distortions caused by “free” services
  - Establishes payment framework for future later phase HIE services
- **Participants pay for service-level that they consume**
  - Service menu options
  - No requirement to purchase later Phase services
  - Annual subscription fees – no transaction or click charges
- **Fees should cover private sector allocation requirement for HIE services (~\$700K per year)**
  - Private fees should not be used for other purposes
  - Fee revenues should be segregated from general state revenues
  - Need to align timing of fee generation with CMS matching rules
- **Fees will need to be adjusted periodically as circumstances change**
  - Will be difficult to precisely target allocation requirement in any given year
  - Need to create process for allocating and distributing surpluses to later phases and/or future year services
  - First year, in particular, will be a market-testing year – want to start with a reasonable framework, and apply lessons learned for future steady-state pricing





# Hiway Private Fee Structure Description



- **Pricing structure informed by experiences (successful and unsuccessful) in Massachusetts and other markets**
- **Tier-based structure based approximately on organization size and level of IT management complexity and capability**
  - Regardless of what method we use, there will always be some level of arbitrariness in parsing organizations into tiers
  - Will start with known customer categories, but will need a process for incorporating new customer types as they emerge
- **Incorporates some degree of cross-subsidization of smaller, less IT-capable organizations by larger organizations**
- **Addresses need to be flexible and attentive to market structure and dynamics**
  - Variety of integration options to accommodate market heterogeneity
  - Pricing favors LAND or Direct HIE services for larger organizations, Secure Web for smaller organizations
  - Takes into consideration competitive offerings and price elasticity



# Current Hlway Price List



Massachusetts Health Information Highway Rate Card

10/8/2012

Tier	Category	Total # in state (estimated )	One-time set-up fee	Annual HIE services fee		
				LAND plus HIE services (per node)	Direct HIE services (per node)	Secure Web HIE services (per user)
Tier 1	Large hospitals	14	\$2,500	\$27,500	\$15,000	\$240
	Health plans	9	\$2,500	\$27,500	\$15,000	\$240
	Multi-entity HIE	5	\$2,500	\$27,500	\$15,000	\$240
Tier 2	Small hospitals	37	\$1,000	\$15,000	\$10,000	\$240
	Large ambulatory practices (50+)	11	\$1,000	\$15,000	\$10,000	\$240
	Large LTCs	8	\$1,000	\$15,000	\$10,000	\$240
	ASCs	63	\$1,000	\$15,000	\$10,000	\$240
	Non-profit affiliates	5	\$1,000	\$15,000	\$10,000	\$240
Tier 3	Small LTC	310	\$500	\$4,500	\$2,500	\$120
	Large behavioral health	10	\$500	\$4,500	\$2,500	\$120
	Large home health	15	\$500	\$4,500	\$2,500	\$120
	Large FQHCs (10-49)	10	\$500	\$4,500	\$2,500	\$120
	Medium ambulatory practices (10-49)	365	\$500	\$4,500	\$2,500	\$120
Tier 4	Small behavioral health	90	\$25	\$250	\$175	\$60
	Small home health	134	\$25	\$250	\$175	\$60
	Small FQHCs (3-9)	29	\$25	\$250	\$175	\$60
	Small ambulatory practices (3-9)	1,595	\$25	\$250	\$175	\$60
Tier 5	Small ambulatory practices (1-2)	4,010	\$25	\$60	\$60	\$60



# Currently Committed Revenues



## Projected revenues

Tier	Category	Calendar year	One-time set-up fee	Annual HIE services fee			Total
				LAND plus HIE services (per node)	Direct HIE services (per node)	Webmail (per user)	
Tier 1	Baystate Health	2012	\$2,500	\$27,500			\$30,000
Tier 1	Beth Israel Deaconess*	2012	\$2,500	\$27,500			\$30,000
Tier 1	Children's Hospital*	2012	\$2,500	\$27,500			\$30,000
Tier 1	Network Health Plan	2012	\$2,500	\$27,500			\$30,000
Tier 1	Partners Healthcare*	2012	\$2,500	\$27,500			\$30,000
Tier 1	Tufts Medical Center*	2012	\$2,500	\$27,500			\$30,000
Tier 2	Atrius	2012	\$1,000	\$15,000			\$16,000
Tier 2	Berkshire Health System	2012	\$1,000	\$15,000			\$16,000
Tier 2	Dimock Health Center	2012	\$1,000	\$15,000			\$16,000
Tier 2	Holyoke Medical Center	2012	\$1,000		\$10,000		\$11,000
Tier 2	Massachusetts eHealth Collaborative*	2012	\$1,000	\$15,000			\$16,000
Tier 2	Vanguard Health Systems	2012	\$1,000	\$15,000			\$16,000
Tier 4	Gregory Harris, MD	2012	\$25			\$250	\$275
	Total		\$21,025	\$240,000	\$10,000	\$250	\$271,275

\* Went live on October 16, 2012



# Massachusetts 2012 Health Reform Law: Chapter 224



- **General Highlights**
  - Sets statewide health care cost goals pegged to GSP growth
  - Requires public payers to transition to alternative payment methodologies
  - Establishes voluntary certification process for ACOs and PCMHs
- **HIE/HIT Highlights**
  - Requires all providers to “implement fully interoperable electronic health records that connect to the statewide health information exchange”
  - HIE governance (HIT Council) and HIE program ownership consolidated in EOHHS:
    - “The executive office shall take all actions necessary to directly manage the Office of the National Coordinator-HIE Cooperative Agreement and ONC Challenge Grant programs, including the termination of the current State Designated Entity delegation and the transfer of management responsibility of said ONC-HIE Cooperative Agreement from the Massachusetts e-Health Institute to the executive office.”
- **EOHHS and MeHI working together through inter-agency agreements to assure momentum and continuity of CMS-funded HIE and ONC-funded Last Mile programs**



# Agenda



- **Massachusetts Health Information Highway (HIway) Status**
- **Phase 2 Scope and Timelines**
- **Phase 2 Project Details**



# Updated plan



## Original high-level plan from 12/11/2011

Phasing	Reconciled HIE Project List	Timing
Phase 1	Statewide HISP w/ Direct Gateway	Q3 2012
	Provider directory	Q3 2012
	VG enhancement: Access & Identity Mgmt	Q3 2012
	VG enhancement: PKI	Q3 2012
	VG enhancement: Clinical gateway	Q3 2012
	HL7 interface: Syndromic Surveillance	Q3 2012
	HL7 interface: CBHI	Q3 2012
	HIE end-user integration program	Q3 2012
	IMPACT (ONC Challenge Grant)	Q4 2012
Phase 2	Clinical data repository	Q1 2013
	Quality data infrastructure	Q1 2013
	HL7 public health interfaces	Q1 2013
	EMPI	Q2 2013
	Vocabulary services	Q2 2013
	Claims relay service	Q3 2013
	MDPHnet (ONC Challenge Grant)	Q4 2013
Phase 3	RLS	Q1 2014
	Consent services	Q1 2014
	Routing service for patients	Q3 2014
	Re-architect/enabling payment methods	Q3 2014

## Updated plan as of 10/23/2012

Phasing		Reconciled HIE Project List	Timing
Phase 1	Release 1	Statewide HISP w/ Direct Gateway	Q3 2012 ✓
		Provider directory	Q3 2012 ✓
		VG enhancement: Access & Identity Mgmt	Q3 2012 ✓
		VG enhancement: PKI	Q3 2012 ✓
	Release 2	HL7 interface: Syndromic Surveillance	12/17/2012
		HL7 interface: CBHI	12/17/2012
IMPACT (ONC Challenge Grant)		12/17/2012	
	Release 1	HL7 Public Health interfaces	Q3 2013
		MDPHnet (ONC Challenge Grant)	Q3 2013
	Release 2	Query/retrieve infrastructure	Q2 2014
		EMPI/RLS	Q2 2014
		Medicaid Clinical Data Repository	Q2 2014
		Consent Database	Q2 2014
		Patient-directed messaging	Q2 2014



# Phase 1 and Phase 2 Description



	Phase 1	Phase 2
<b>HIE components</b>	<ul style="list-style-type: none"><li>• Provider directory</li><li>• PKI infrastructure</li><li>• Direct/HL7 gateway</li><li>• Web portal mailbox</li></ul>	<ul style="list-style-type: none"><li>• Master Person Index</li><li>• Record locator service</li><li>• Consent database</li><li>• Patient-directed messaging</li><li>• Query/retrieve infrastructure</li><li>• MDPHnet</li></ul>
<b>HIE end-points</b>	<ul style="list-style-type: none"><li>• Any TPO participant</li><li>• Public health<ul style="list-style-type: none"><li>• SS, CBHI, MIIS</li></ul></li></ul>	<ul style="list-style-type: none"><li>• MassHealth clinical data repository</li><li>• Medicaid/HIX participants</li><li>• Public health<ul style="list-style-type: none"><li>• ELR, PMP, Opioid, Lead</li></ul></li></ul>

**A richer set of services available to a broader set of participants**



# Phase 2 supports high-value use cases



Use case	Example	Value drivers
Unsolicited query	<ul style="list-style-type: none"><li>• Emergency department search for summary records</li><li>• Specialist search for summary records</li><li>• Provider search for prior diagnostic tests (imaging, lab, etc) or specialist visit records</li></ul>	<ul style="list-style-type: none"><li>• Continuity of care</li><li>• Reduction in adverse events</li><li>• Reduction in controlled substance overuse</li><li>• Reduction in utilization of medical services</li></ul>
Public health reporting	<ul style="list-style-type: none"><li>• Provider submits electronic lab reporting data public health automatically through Hlway</li></ul>	<ul style="list-style-type: none"><li>• Enhanced public health reporting adherence</li><li>• Supports MU achievement</li></ul>
MassHealth CDR	<ul style="list-style-type: none"><li>• Provider submits post-encounter CDAs to CDR</li></ul>	<ul style="list-style-type: none"><li>• Bundled Payment support</li><li>• Prior Authorization Support</li><li>• Claims Adjudication support</li><li>• Utilization monitoring</li><li>• Outcomes monitoring</li><li>• Case management</li></ul>
Patient access to medical record information	<ul style="list-style-type: none"><li>• Provider transmits clinical summary information to patient-specified PHR/portal through HIE</li><li>• Patient sends “clipboard” information to provider through HIE</li></ul>	<ul style="list-style-type: none"><li>• Administrative simplification</li><li>• Supports MU achievement</li><li>• Patient safety</li><li>• Continuity of care</li></ul>





# Agenda



- **Massachusetts Health Information Highway (HIway) Status**
- **Phase 2 Scope and Timelines**
- **Phase 2 Project Details**



## Description

- IBM Initiate patient database shared with HIX/MMIS
- Patient demographics, MRN, and encounter type
- Fed by HL7 ADT feeds from source systems

## Focus of effort

- Policy framework for creating statewide MPI
- Data sharing agreements with clinical entities
- HL7 ADT specification and deployment
- Provider engagement
- EHR vendor engagement



# Consent database



## Description

- Central consent database of patient data-sharing preferences
- Linked to MPI
- Fed by HL7 ADT feeds from source systems

## Focus of effort

- Policy framework for consent
- Consent agreements and patient outreach/education
- Provider outreach/engagement
- Data sharing agreements with clinical entities
- EHR consent management and handling specifications
- HL7 ADT specification and deployment
- EHR vendor engagement



# Query/retrieve infrastructure



## Description

- Automated retrieval of patient summary information
- Consent-based retrieval leveraging EMPI/RLS and consent database

## Focus of effort

- Policy framework for query/retrieve
- Consent agreements and patient outreach/education
- Data sharing agreements with clinical entities
- EHR consent management and handling specifications
- EHR query/retrieve specifications and interface deployment
- Provider engagement
- EHR vendor engagement



# Patient-directed messaging



## Description

- Database of Direct addresses to support provider-to-patient document transmission
- Linked to master person index
- Fed by HIX/MMIS and (possibly) HL7 ADT feeds from clinical source systems

## Focus of effort

- Policy framework for patient identity-proofing and authentication
- Business model for patient enrollment through HIX/MMIS processes
- EHR patient Direct address database interface specifications



## Description

- Clinical data repository to support analytics for value-based payment models
- For clinical encounter data: electronic transmission from source systems to populate CDR

## Focus of effort

- Policy framework for State-based CDR
- Clinical content requirements for value-based payment models
- Data sharing agreements with clinical entities
- EHR CDA content, format, triggering specifications
- Provider outreach/engagement
- EHR interface deployment
- EHR vendor engagement



## Description

- Opioid treatment: Receive Intake, Enrollment, and Assessments for Opioid treatment program related to Medicaid claims
- ELR: Receive infectious disease lab reports as per MA public health regulations
- Cancer (NPCR): Receive reports of malignant disease per public health regulations; MU stage 2
- Prescription monitoring: To curb prescription drug abuse, this system enables providers to query patient controlled substance history to inform prescribing

## Focus of effort

- Opioid treatment: Add back end system to HIE as node; back end system development
- ELR: Add ELR to HIE as node; Onboarding support. Additional support for Lead poisoning support
- Cancer (NPCR): Add Cancer Registry system to HIE as node; Back end system deployment based on CDC NPCR implementation
- Prescription monitoring: Add PMP to HIE as a node; modify back end system to support use on HIE



# HIE - PMO Support



## Description

- Subject Matter Expert, Policy, Business, and Legal infrastructure to support HIE

## Focus of effort

- Project management, financial analysis, contract management
- Liaison with federal and state agencies
- Legal support
- Subject Matter Expert (SME) vendor





# Enhanced Phase 1 O&M Support



## Description

- Staff structure and processes for onboarding and support

## Focus of effort

- Business Operations and Onboarding capability
- Call Center capability
- Additional Tier 2 and 3 support
- Billing and Invoicing



# Project schedule and updates



Activity	Completion date
Submit IAPD to CMS	Nov 14, 2012
CMS approval of Phase 2 IAPD	Jan 15, 2013
Procurement for Phase 2 services (RFP, Change Orders, Internal Development)	Jan 31, 2013
Phase 2 infrastructure vendor selected	March 29, 2013
Phase 2 contract (or change order) executed	Apr 15, 2013
Go-live for Phase 2, Release 1 (Public Health interfaces)	Apr-Oct, 2013
Go-live for Phase 2, Release 2 (CDR, EMPI, RLS, Consent)	Oct 2013 – Mar 2014



# Detailed budget discussion



- **Switch to budget spreadsheet**